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REMOVAL OF HOST'S EGG BY THE CUCKOO?

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In the Bibra Lake District, Fremantle, the principal host of the Pallid Cuckoo (*Cuculus pallidus*) has been found to be the Red Wattle-bird (*Anthochaera carunculata*), no doubt, due to the similarity in the colour of their eggs. Below is a list of the number of wattle-birds' eggs when the nest has been found to contain a Pallid Cuckoo's egg.

Nest	Cuckoo's Eggs	Wattle-birds' Eggs
A	1	2
B	1	2
C	1	2
D	1	2
E	1	1
F	1	2
G	1	-

Nests A, B, C and D contained two eggs of *Anthochaera carunculata* and so the cuckoo may have deposited its egg in the nest, (i) before the host, or (ii) after the host laid its eggs. Only on one occasion have I known *Anthochaera carunculata* to have a clutch exceeding two eggs, and on that occasion there were three eggs. Hence it can be assumed that in all the cases under consideration the wattle-bird only laid two eggs. Nest D was found with all the eggs broken, possibly by the wattle-bird on finding a cuckoo's egg in its nest, and in this case the cuckoo would have deposited its egg after the wattle-bird had laid its two eggs. In nests A, B and C it would appear that the first alternative would apply. The reason for this assumption will be evident later. Nest E contained only one egg of *Anthochaera carunculata* and further observations on this nest proved that the wattle-bird did not increase its clutch and so it appears that the cuckoo may have removed an egg, after depositing its own. In the case of nest F, the nest was found when it only contained one cuckoo's egg, but on subsequent observations, the nest was observed to contain an additional two eggs of the wattle-birds. Obviously in this instance the cuckoo laid its egg first. Observations on nest G proved interesting. On the initial observation this nest only contained a cuckoo's egg and at no time later were any wattle-birds' eggs observed in the nest. Perhaps the adult cuckoo had earlier removed both of the wattle-birds' eggs, as the cuckoo's egg was subsequently hatched and the chick raised to maturity.

Two other records on *Cuculus pallidus* are worth noting, but on both occasions the host concerned was the Little Wattle-bird (*Anthochaera chrysoptera*). A distance of some ten yards separated these nests and in both cases the nest was found to contain a Pallid Cuckoo's egg, but only one nest contained an egg of *Anthochaera chrysoptera*. Later the other nest was observed to contain, additionally, an egg of *Anthochaera chrysoptera*, and since the last-named species lays a single egg in Western Australia, it was apparent that the Cuckoo did not remove the host's egg. It may be also interesting to note that both cuckoo eggs were exactly similar (a darker zone marked on the larger end), and it was assumed the same cuckoo hen deposited both eggs. Perhaps this has little significance, but it may mean that only some cuckoos possess the instinctive desire to remove an egg of the host.

Previously I stated the opinion that *Cuculus pallidus* would, on most occasions, deposit its eggs before the host laid any eggs. Glancing through my records, it is evident that this would predominantly apply except whenever it appears that the cuckoo removed one of the eggs. The reason may be as follows. It is a well established fact that the cuckoo chick will eject the host's chicks or eggs and to do this it must be strong enough to meet these demands. So, the cuckoo lays its egg first. This induces the host to commence incubation at an earlier stage and perhaps before it has laid its own clutch, and finally the cuckoo chick hatches a little earlier than the host's chick. The result is that the cuckoo is much stronger than the host's chicks and so is able to eject them from the nest. However, when the cuckoo deposits its egg after the host has laid its eggs, the cuckoo removes an egg, which situation will result in easing the demands later on the young cuckoo chick.

Hence, in conclusion, it can be assumed that *Cuculus pallidus* will remove an egg of the host wherever the host's clutch has already been laid, and time permits the complete transaction. Referring back to nest D it will be seen that all the eggs of both species were broken. This was most probably due to the cuckoo having insufficient time for the transaction and one of the wattle-birds may have observed the cuckoo at the nest.

HERPETOLOGICAL MISCELLANEA

By L. GLAUERT, W.A. Museum, Perth.

V.—WESTERN AUSTRALIAN GECKOES, PART 1

The lizards of the Family Geckonidae are easily distinguished. They have no overlapping scales on the back, and are usually velvety in appearance and soft and flabby to the touch.

All the Australian forms have well developed, functional limbs with five digits; the body is more or less depressed and the tail may assume a variety of shapes according to the species. This appendage is easily shed and substituted by a replacement, usually differing in colour and outline from the lost portion.